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## PART I - ADMINISTRATIVE

### Section 1. General administrative information

Title of project

Ctuir Grande Ronde Basin Watershed Restoration

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BPA project number: 9608300

Contract renewal date (mm/yyyy): 8/2000 ☐ Multiple actions?

Business name of agency, institution or organization requesting funding

Confederated Tribes of the Umatilla Indian Reservation

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Business acronym (if appropriate) CTUIR

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Proposal contact person or principal investigator:

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NPPC Program Measure Number(s) which this project addresses

7.6B.3; 7.6B.4; 7.6C; 7.6C.5; 7.6D, 7.7; 7.8A.5

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FWS/NMFS Biological Opinion Number(s) which this project addresses

N/A

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Other planning document references

Wy Kan Ush Me Wa Kush Wit, Spirit of the Salmon. CRITFC. 1995.  
National Marine Fisheries Service, Snake River Salmon Recovery Plan, 1995, U.S.  
Dept. of Commerce, National Oceanic & Atmospheric Admin., Washington DC,  
Columbia River Basin Fish and Wildlife Program, Sections 7.6D and 7.7.  
Stream and Riparian Conditions in the Grande Ronde Basin, Section 9.2.2.  
Grande Ronde Model Watershed Operations-Action Plan, Appendix A and B.  
Grande Ronde Ecosystem Diagnosis and Treatment Project, 1997.  
Wallowa Whitman National Forest Plan and current Watershed Assessments

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Short description

Protect and enhance riparian, floodplain, and instream habitat with particular emphasis on the holding, spawning, and rearing areas of salmonid fishes, thus improving water quality and quantity and promoting natural ecological functions.

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Target species

Threatened Snake River spring chinook salmon (*Onchorhynchus tshawytscha*), summer steelhead (*Onchorhynchus mykiss*), and bull trout (*Salvelinus confluentus*). Various non-game fish species and multiple wildlife species.

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## Section 2. Sorting and evaluation

Subbasin  
Grande Ronde River

### ***Evaluation Process Sort***

<b>CBFWA caucus</b>	<b>Special evaluation process</b>	<b>ISRP project type</b>
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
<input checked="" type="checkbox"/> Anadromous fish <input type="checkbox"/> Resident fish <input type="checkbox"/> Wildlife	<input type="checkbox"/> Multi-year (milestone-based evaluation) <input checked="" type="checkbox"/> Watershed project evaluation	<input type="checkbox"/> Watershed councils/model watersheds <input type="checkbox"/> Information dissemination <input checked="" type="checkbox"/> Operation & maintenance <input type="checkbox"/> New construction <input type="checkbox"/> Research & monitoring <input checked="" type="checkbox"/> Implementation & management <input type="checkbox"/> Wildlife habitat acquisitions

## Section 3. Relationships to other Bonneville projects

***Umbrella / sub-proposal relationships.*** List umbrella project first.

<b>Project #</b>	<b>Project title/description</b>

### ***Other dependent or critically-related projects***

<b>Project #</b>	<b>Project title/description</b>	<b>Nature of relationship</b>
870001	Umatilla River Basin Anadromous Fish Habitat Enhancement Project	To minimize cost, this project shares personnel, vehicles, and equipment with CTUIR Umatilla Basin Fish Habitat Enhancement Project.
9604601	Walla Walla River Basin Fish Habitat Enhancement Project	To minimize cost, this project shares personnel, vehicles, and equipment with CTUIR Walla Walla Basin Fish Habitat Enhancement Project.
9402700	Grande Ronde Model Watershed Program (GRMWP)	was in umbrella

## Section 4. Objectives, tasks and schedules

### ***Past accomplishments***

<b>Year</b>	<b>Accomplishment</b>	<b>Met biological objectives?</b>
1998	Completed Phase I of McCoy Meadows Restoration Project - reintroduced McCoy Creek to historic meander channels, implemented bioengineering, riparian tree/shrub planting	-Increase habitat availability/quality for salmonids: 1,200 linear feet of stream channel reactivated/restored, 1,800 linear feet enhanced with increased flow. Initiated

	(5,500 + plants installed), installed/relocated floodplain livestock enclosure	vegetative recovery through planting riparian tree and shrubs (5,500 plus plants)
		-Increase channel sinuosity to increase channel availability, reconnect stream to floodplain and reduce stream energy/erosion: project increased sinuosity from existing 1.01 to 1.52
		-Decrease channel gradient to improve streambank stability and decrease erosion: project decreased gradient from existing 0.8 ft/100 ft to 0.3 ft/100 ft
		-Improve/increase vegetative cover/shade and streambank stability to improve water quality (temp.) and reduce erosion: planted 5,500 plus riparian tree/shrub stock, 24 live willow rootwads, livestockes, fascines.
		Initiated project planning for phase II project including bridge replacement, channel reintroduction, revegetation, and development of permanent NRCS, Wetland Reserve Program conservation easement for approx, 1,500 acres of floodplain/wetland habitat
		Conducted ongoing and new M&E:-water quality monitoring program under ODEQ basin effort (temp, chemistry)-groundwater well monitoring (established 42 wells in floodplain, NRCS)-established permanent photo-points
		M&E cont.-established cross sections/total stations-established permanent veg. plots (reveg census monitoring)-pre/post project instream habitat monitoring-pre/post project fish pop monitoring
1998	McIntyre Creek Road Relocation/Restoration Project	Participated as partner with USFS and GRMWP on project development - relocation/obliteration of existing drawbottom road. Project located upstream from McCoy Project. Bridge designs initiated as part of engineering design on McIntyre Project
1999	McCoy Meadows Restoration Project	-continued design planning for phase II- installed protective measures on planting sites-conducted limited maintenance of 98 project structures-continued M&E-continued multi-agency coordination on project
1999	Meadow Creek Restoration	-completed planning and design in coop project with private landowner, ODFW, and NRCS on middle Meadow Creek-initiate project implementation including establishment of riparian easement and pasture fence-initiate planning/design for instream structural
1999	Mainstem Grande Ronde Habitat Enhancement Project Implementation	-constructed phase I project including structural additional (large wood/rock

		vortex), streambank stabilization, bioengineering, revegetation, M&E (cross sections, photo points, fish pop surveys)-initiated planning/design phase II
		-increased large pool habitat availability for overwintering spring chinook salmon-increase instream structural diversity (whole tree additions, rootwad revetments, rock vortex weirs)-initiated installation of vegetation stock
		-initiated range developments (off-channel water, spring development) and layout for riparian conservation easement fencing

### ***Objectives and tasks***

<b>Obj 1,2,3</b>	<b>Objective</b>	<b>Task a,b,c</b>	<b>Task</b>
1	Administer CTUIR Grande Ronde River Basin Watershed Restoration Program	a	Develop annual contract and scope of work with BPA COTR
		b	Prepare annual/semi annual reports per contract agreement
		c	Develop and administer equipment rental and service contracts and professional service agreements to accomplish project work. Perform as COTR on CTUIR contracts
		d	Prepare documentation and checklists to cover project level NEPA requirements, DSL/Corps 404 permits, etc.
		e	Prepare/coordinate development of Biological Assessments under ESA for T&E species and cultural resources. Consult with appropriate federal agency on individual projects
2	Identify and prioritize habitat enhancement/restoration project areas	a	Review watershed assessments and habitat survey data, collaborate with other basin biologists and hydrologists to identify priority subbasins/stream reaches. Primary work conducted with GRMWP, ODFW, USFS, and NRCS.
		b	Conduct on-site visits, evaluate site potential for restoration (access, landowner participation, likelihood of success, benefit to salmonid species).
3	Develop anadromous fish habitat/water quality restoration and habitat conservation project opportunities with other agencies and private landowners to address key habitat limiting factors in Grande Ronde River Basin	a	Coordinate project development and partnerships with state, federal, and local agencies primarily through GRMWP. Develop/secure multiple funding sources to cost-share efforts where appropriate.
		b	Contact and coordinate with private landowners in key portions of basin to develop and implement habitat

			enhancement/restoration project opportunities.
		c	Negotiate and develop project development and habitat conservation agreements with landowners to accomplish resource objectives.
4	Enhance and Restore Instream Habitat Diversity and Suitability (improve hold and rearing habitat quality and quantity)	a	Design and implement appropriate strategies to enhance and restore availability spawning, holding, and rearing habitat - primarily large woody debris/whole tree additions, very limited rock structures.
		b	Design and implement bioengineering/revegetation activities to enhance/restore streambank stability, stream shade, future recruitable large woody debris, and riparian/floodplain health
		c	Collect and propagate riparian tree, shrub, and grass/forb material for use in restoration/enhancement projects
5	Enhance and Restore Riparian and Floodplain Habitat Conditions to Enhance and Restore Watershed Health and Floodplain Function (Water Quality/Quantity and Erosion/Sediment)	a	Design and implement installation of riparian/floodplain exclosures/pastures and develop range management/livestock management plans including development of pasture systems and off-channel range developments (spring developments, troughs).
		b	Design and implement floodplain road/railroad rehabilitation/obliteration to recapture floodplain function and reduce sedimentation.
		c	Conduct noxious weed control including prevention, manual treatments, and chemical treatments.
6	Conduct Habitat Maintenance Activities	a	Continue maintenance on McCoy Meadows Project (weed control, revegetation (interplanting/protection), minor structural/streambank repair
		b	Maintain riparian exclosure/reveg plot protection devices
7	Conduct Ongoing Monitoring and Evaluation	a	Continue M&E on McCoy Meadows Project --photo points --vegetative plots --revegetation plots --coord with other agencies/organizations conducting M&E (groundwater, fish populations, cross-sections, total stations, ODEQ H2O quality,
			OSU Research/Evaluate NE Oregon Stream Restoration And Develop Mgmt Guidelines Project
		b	Develop and implement M&E on individual projects including: --photopoints --instream habitat

			--fish populations/use --water quality (temperature) --revegetation sites (stocking/census/survival, density, stocking)

### **Objective schedules and costs**

<b>Obj #</b>	<b>Start date mm/yyyy</b>	<b>End date mm/yyyy</b>	<b>Measureable biological objective(s)</b>	<b>Milestone</b>	<b>FY2000 Cost %</b>
1	8/2000	7/2001	Objective contributes to biological objectives through administration activities	Program and project administration	10.00%
2	8/2000	7/2001	Project prioritization with subbasin	Project, tributary prioritization	5.00%
3	8/2000	7/2001	Project identification/development	Project scheduling, agreements with landowners	10.00%
4	8/2000	7/2001	Habitat enhancement/restoration (increased quality/quantity spawning and rearing habitat)	Project designs, installation/construction, vegetation stock collection	30.00%
5	8/2000	7/2001	Improved floodplain conditions contributing to habitat quality/quantity and water quality improvement	Project designs, installation/construction, noxious weed control/management	30.00%
6	8/2000	7/2001	Maintenance of previously installed habitat enhancement/restoration efforts	Ongoing weed control, riparian/floodplain revegetation, structural repairs	10.00%
7	8/2000	7/2001	M&E	M&E whether objectives have been achieved	5.00%
				<b>Total</b>	<b>100.00%</b>

### **Schedule constraints**

Potential constraints include: (1) the cooperation of private landowners; (2) timely processing of instream work permits by the DSL/COE; 3) completion of ESA-related consultation; 4) completion of cultural resource reviews/consultation w/ SHPO.

### **Completion date**

Current habitat restoration/enhancement needs exceed current available manpower and funding. Therefore, project need is continuous and ongoing in the foreseeable future.

## **Section 5. Budget**

**FY99 project budget (BPA obligated):** \$200,000

### ***FY2000 budget by line item***

Item	Note	% of total	FY2000
Personnel		% 32	80510
Fringe benefits	@28%	% 9	22,543
Supplies, materials, non-expendable property		% 5	13,580
Operations & maintenance	O&M costs incorporated into personnel and subcontractor line items (manual labor/equipment rental)		
Capital acquisitions or improvements (e.g. land, buildings, major equip.)			
NEPA costs	NEPA/permitting/consultation costs incorporated into personnel line item		
Construction-related support			
PIT tags	# of tags:		
Travel		% 8	20,800
Indirect costs	34% of personnel, services, travel, and services/supplies	% 18	46,717
Subcontractor	Includes equipment rental and labor contracts	% 26	65,850
Other			
<b>TOTAL BPA FY2000 BUDGET REQUEST</b>			<b>\$250,000</b>

### ***Cost sharing***

Organization	Item or service provided	% total project cost (incl. BPA)	Amount (\$)
To be determined			
<b>Total project cost (including BPA portion)</b>			<b>\$250,000</b>

### ***Outyear costs***

	FY2001	FY02	FY03	FY04
<b>Total budget</b>	\$261,420	\$273,637	\$286,673	300,586

## **Section 6. References**

Watershed?	Reference
<input type="checkbox"/>	CRITFC. 1995. Wy Kan Ush Me Wa Kush Wit , Spirit of the Salmon. Intertribal Fish Commission. Portland, Oregon.
<input type="checkbox"/>	NMFS. 1995. National Marine Fisheries Service, Snake River Salmon Recovery Plan. U.S. Dept. of Commerce, National Oceanic & Atmospheric Admin., Washington DC,
<input checked="" type="checkbox"/>	Huntington, CH. 1993. Clearwater BioStudies. Final Report. Stream and Riparian Conditions in the Grande Ronde Basin. Grande Ronde Model Watershed Operations-Action Plan, Appendix A and B. LaGrande, Oregon

<input type="checkbox"/>	USFS. 1990. Wallowa-Whitman National Forest. Miscellaneous Stream Survey Summaries. LaGrande Ranger District. LaGrande, Oregon
<input type="checkbox"/>	Kaufman, J.B., Beschta, R.L., Otting, N., and Lytjen, D., 1997. An ecological perspective of riparian and stream restoration in the western United States. Fisheries. 22: 12-24
<input type="checkbox"/>	

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## PART II - NARRATIVE

### Section 7. Abstract

The CTUIR Grande Ronde Subbasin Watershed Restoration Project (previously 5507000 and now 9608300) is an ongoing Tribal effort in the basin to enhance and restore habitat and water quality for threatened Snake River spring chinook salmon and summer steelhead trout. The project was initiated in 1996 under the Northwest Power Planning Council Fish and Wildlife Program Early Action Implementation effort. To date, the project has been successful in developing multiple project partners on individual project efforts and increasing Tribal participation at the project level with the Grande Ronde Model Watershed Program (GRMWP) and the multiple entities involved in basin restoration activities. Tribal project management continually strives to initiate as well as compliment new and ongoing habitat enhancement and restoration efforts. Efforts in FY97, 98, and 99 have been focused largely on key reaches of the mainstem Upper Grande Ronde River and in the McIntyre, McCoy, and Meadow Creek subbasins which are tributaries to the Upper Grande Ronde.

Specific projects either developed by the CTUIR or which the CTUIR has supported using BPA funds have focused on enhancing and restoring instream habitat diversity and complexity, floodplain connectivity and health, range management improvements. Efforts have included both passive and active techniques with an emphasis placed on addressing site-specific issues based on watershed limiting factors. A specific example includes ongoing efforts in the McIntyre, McCoy, and Meadow Creek subbasins where multiple entities including private landowners, state and federal agencies, and GRMWP have joined together in the identification of priorities, project initiation, designs, and implementation at the subbasin level. Project strategies include reintroduction of McCoy Creek on private land from a straightened channel into historic meander channels, floodplain fencing to control livestock, perpetual protection (under National Wetland Reserve Program) of over 400 acres of wetland meadow/floodplain, bridge replacement to reduce flooding and erosion and improve fish passage, obliteration of drawbottom roads on upstream National Forest System lands, and removal of railroad grades to reconnect streams to their floodplains.

FY2000 project activities include additional work in the upper portions of the McIntyre, McCoy, and Meadow Creek subbasins. Specific activities include data review, identification of priority activities and project locations, development of project designs encompassing taking a passive approach to restoration, additional road and railroad obliteration and rehabilitation, large woody debris additions to replace wood removed in the past century through logging and instream structural diversity/complexity, and extensive riparian and floodplain revegetation efforts to increase streambank stability and stream shading. Project development and implementation involves the CTUIR, USFS, ODFW, NRCS, ODEQ, USEPA, GRMWP, and private landowners.

### Section 8. Project description

#### a. Technical and/or scientific background



In May 1992, Snake River spring chinook salmon in the Grande Ronde Basin were listed as threatened under the Endangered Species Act. In October 1997, steelhead were listed as federally threatened in the basin. Habitat degradation within the Grande Ronde Basin has been well documented in reports commissioned by the Grande Ronde Model Watershed Program (GRMWP), graduate theses, and a multitude of other reports and publications. Reference material associated with habitat conditions this proposal is tiered to include reports commissioned by the GRMWP: the *GRMWP Operations/Action Plan* (Duncan and Cawthon, 1994); *Stream and Riparian Conditions in the Grande Ronde Basin* (Huntington, 1994); and the *Application of the Ecosystem Diagnosis and Treatment Method to the Grande Ronde Model Watershed Project* (Mobrand and Lestelle, 1997). Three Watershed Action Plans and several Coordinated Resource Management Plans (CRMP's) have been completed or are in progress to address individual watersheds within the Grande Ronde River basin.

The CTUIR Grande Ronde Watershed Restoration Project focuses on enhancing and restoring degraded habitat conditions that are a contributing factor to the decline (and suppression) of anadromous fish populations in the Grande Ronde Basin as well as in the Columbia River Basin. Habitat deficiencies in the Grande Ronde Basin are addressed by taking appropriate actions including passive as well as active approaches. Specific emphasis for CTUIR project development is placed on focusing efforts in high priority portions of the basin such as key cold water sources, spawning habitats, and summer and winter rearing habitat. Tribal efforts, as in the past few years, have strived to complement restoration efforts of other agencies and/or partner with others including ODFW, NRCS, USFS, ODEQ, and EPA to accomplish objectives. The CTUIR program is also coordinated through the GRMWP. The intent of the program is to make incremental improvements toward habitat restoration and protection, which are critical links to improving anadromous fish populations in the Columbia Basin.

Habitat enhancement and restoration activities planned under this proposal will address the following habitat parameters and management activities identified in the 1994 Columbia Basin Fish and Wildlife Program, Section 7.6D:

sediment	bank stability	water quality	large woody debris
grazing	riparian vegetation	stream morphology	large pool habitat

The following limiting habitat factors have been identified in GRMWP planning documents for the Upper Grande Ronde River (upstream of LaGrande, Oregon). The quantity of key habitat for spring chinook and summer steelhead in the upper Grande Ronde River is greatly reduced for certain life stages compared to historic levels. Migration, holding, and spawning habitat for adult fish is restricted as a result of low summer flows, high summer water temperatures, and limited availability of holding pools. Summer juvenile rearing habitat is restricted because of high summer water temperatures. Winter rearing habitat for juvenile salmon is very limited because of reduced habitat complexity, streambed sedimentation, and severe icing problems. Survival conditions have changed due primarily to increased water temperature, increased sediment load, loss in habitat diversity, changes in flow patterns, channel and bank destabilization, and alteration of the riparian zone (Huntington, 1994).

The CTUIR proposed to focus FY2000 restoration funds in the upper portions of the McIntyre, McCoy, and Meadow Creek Subbasins of the Upper Grande Ronde River Watershed. Past basin-wide restoration efforts have largely overlooked limiting factors in this portion of the basin due primarily to funding limitations and focus on spring chinook habitat. The McIntyre, and particularly the McCoy Creek subbasin contains significant opportunity to improve spawning and rearing conditions for summer steelhead as well as downstream spring chinook rearing habitat. Subbasin efforts will be focused on addressing the key limiting factors identified above. Project work scheduled for FY2000 is planned in cooperation with the USFS and ODFW and several large landowners. Specific habitat enhancement and restoration strategies are currently under development and will be driven by USFS Watershed Assessments and review of existing habitat survey data collected by the USFS on National Forest System lands (USFS, 1990) and ODFW on privately owned lands. Conceptually, project efforts will involve: protection of existing resources through riparian exclosures and conservation easements (with private landowners), removal and rehabilitation of railroad and road grades located in floodplains, restoration of floodplain vegetation and control of noxious weeds, and instream habitat enhancement through installation of large woody debris.

**b. Rationale and significance to Regional Programs**

Consistent with the 1994 FWP, this project will work as a logical component of ongoing efforts (GRMWP). The primary objective of the project is to protect and restore habitat critical to the recovery of threatened and endangered populations of salmonid fish within the Grande Ronde River Basin. In meeting this objective, this project will further the goals set forth in the 1994 FWP by: (1) protecting existing high quality habitat; (2) prioritizing restoration projects through the use of watershed assessment; (3) giving priority to restoration actions that maximize the desired result per dollar spent; (4) implementing proven habitat restoration methods, particularly natural healing techniques; (5) seeking cost-share and encouraging the investment of volunteers; (6) coordinating data collection, analysis and reporting, and adaptive management to monitor project progress; and (7) implementing riparian easements of sufficient width to improve and maintain salmon and steelhead production in privately owned riparian areas and adjacent lands.

**c. Relationships to other projects**

Within the Grande Ronde River Basin, four critical components are being addressed to meet the successful restoration of salmonid fish populations. These include natural and artificial fish production, removal of passage impediments, instream flow enhancement opportunities, and instream habitat and water quality restoration/protection. The CTUIR Grande Ronde Basin Watershed Restoration Project effort is relevant and complimentary to the above efforts. Specifically, this project integrates project development and implementation with GRMWP (Project 9402700 and 96608300), Oregon Department of Fish Wildlife Grande Ronde Habitat Enhancement Project (8402500), as well as efforts of the Natural Resource Conservation Service (Agriculture programs), and Oregon Department of Environmental Quality/U.S. Environmental Protection Agency (319 Clean Water Act Project Funding). Collectively, these combined efforts are effectively beginning to address key limiting factors in the basin. In many cases, the CTUIR and multiple agencies cost-share specific project activities to accomplish mutual objectives.

In the absence of habitat protection and enhancement, restoration of threatened fish populations will not be achieved. On a broader scale, within the Columbia Basin, habitat protection and restoration will contribute to increased juvenile survival and the number of outmigrants in the Grande Ronde River Basin which will also contribute to ultimately achieving adult escapement goals established for the Columbia Basin. Project throughout the basin are basin, including this project, are interdependent because of the migratory behavior of anadromous fishes. If we are to be successful at restoring salmonid populations, we must recognize that all aspects of the salmon life cycle are dependent on one another. Thus all habitats, headwater to ocean, must meet requirements necessary for the survival of the species. This approach is reflected within the FWP in section 7.6C, which states that a “such restoration activities, to be successful, must be coordinated across many jurisdictional and ownership boundaries. And, “failure to integrate (projects) will put each action at risk of being undermined by uncoordinated actions downstream, upstream or upslope”.

In addition, this project relies on the support of the Umatilla Habitat Enhancement Project (#870001) and the Walla Walla River Basin Habitat Enhancement Project (9604601) in the cooperative use of certain field gear and personnel. Some examples include the sharing of ATV;s planting tools, and personnel during peak periods, such as the spring and fall planting periods.

This project requires interaction between State, Federal, Tribal, and local interests. Habitat projects require permitting through the Division of State Lands and Corps of Engineers. ESA-related issues are consulted on through the National Marine Fisheries Service, and U.S. Fish and Wildlife Service. In some cases, the Natural Resource Conservation Service provides design criteria for instream structures.

**d. Project history (for ongoing projects)**

Funding for this project began in June 1996 under the Early Action Watershed Implementation Program. Past annual project costs requested from BPA for the project have ranged from \$150,000 in 1997 to \$200,000 proposed in 1999. Early Action funds were utilized primarily to cost share project efforts with

the GRMWP and partners such as the USFS. Projects included streambank stabilization, woody debris/whole tree additions, range developments (riparian pasture fences and off-channel water developments), and engineering design for road obliteration and bridge construction on in the McIntyre and McCoy Creek subbasin. Funds provided in 1997 and 1998 have been focused on four, primary priority portions of the basin including: McCoy Meadows Meadow Restoration Project; McIntyre Creek Road Relocation and Obliteration Project, and two mainstem Grande Ronde River project efforts involving streambank stabilization, large wood debris additions, and floodplain/riparian revegetation.

Following is a summary of major accomplishments made during the 1997 and 1998 funding periods:

#### McCoy Meadows Meadow Restoration Project

The McCoy Meadows project is located on the privately owned, 2,500 acre McCoy Meadows Ranch, approximately 1.5 miles upstream from Starkey, Oregon in the upper portions of the Grande Ronde River Basin. Major tributaries to the Grande Ronde located on the property include Meadow, McCoy, and McIntyre Creeks. Both Meadow and McCoy Creek are historic spring chinook tributaries. All three tributaries currently support summer steelhead. McCoy Creek once meandered through a large, wetland meadow complex (about 400 acres) prior to diking and channelization. Prior to the summer of 1997, McCoy Creek flowed in a near straight channel through the meadow to its confluence with Meadow Creek for a total length of about 1.5 miles. Historically, this area is estimated to have contained 3 to 5 miles of active stream channels. Channelization, lack of meanders, and farming/ranching contributed to poor fish habitat conditions, instream habitat diversity, poor water quality (temperature/sediment), little to no connection with the meadow floodplain, and excessive erosion/headcutting. The complex historically teemed with beaver, consisted of extensive wetland and riparian vegetation with narrow, deep channels and backwater areas, and functioned as a sponge with groundwater levels near the surface elevation. The complex moderated peak flood events and maintained extensive summer base flows of cold, clean water that contributed to high quality salmonid spawning and rearing areas.

Over a period of two years, the private landowner, CTUIR, and a host of federal and state agency representatives initiated a multi-year effort to restore the meadow complex to as near natural condition as feasible. Implementation of phase I of the project resulted in: 1) reactivation of over 1,200 linear feet of stream channel by diverting McCoy out of a channelized segment into a historic meander channel; 2) enhancement of over 1,800 feet of existing channel by increasing spring and summer low flows (baseflow); 3) decreased stream gradient and increased sinuosity; 4) extensive vegetation planting to restore riparian and floodplain shrub and tree (included installation of over 5,500 tube/rooted stock, livestakes, whole willow rootwads, and fascines; 5) installation of protective measures (fences, cages, tube protectors) to minimize losses of planted material from big game and other wildlife (such as beaver); and 6) installation and relocation of riparian pasture fencing in cooperation with ODFW to better protect floodplain resources. Initial water quality monitoring data collected by ODEQ indicates that phase I of the project resulted in a decrease in water temperatures of 4-5 degrees Fahrenheit in the project reach. Large pools with groundwater seepage within the project reach showed a decrease in water temperature of nearly 10 degrees which clearly indicates that increased groundwater can contribute significantly to improved water quality. Other, initial observations indicate a significant response in riparian and wetland vegetation reestablishment (sedges, rushes, willows), decreased width:depth ratio, increased overland flow and associated reduced erosive power, and groundwater recharge.

Spring and summer 1998 efforts included completion of planting and protection efforts, ongoing monitoring and evaluation, and preparations for design and implementation of phase II of the project. Phase II consists of a similar approach to phase I with nearly three times the opportunity to increase total channel length and floodplain connectivity. The original schedule called for initiating phase II construction in 1998, but scheduling constraints prevented completion of necessary survey work on project area. Currently, channel designs and design criteria are being completed. It appears that phase II may need to be broken into additional phases due to the amount of work involved and coordination with other connected actions. Channel work will begin in July 1999 with project work likely extending into the 2000 field season.

Other connected actions include installation of a bridge on McCoy Creek. The current triple culvert structure is undersized and incapable of handling small flood events. A large capacity bridge, scheduled to be installed in 1999, will improve passage of water through the existing road prism and positively contribute to both upstream and downstream restoration efforts. In addition, appraisal work is near completion to incorporate approximately 850 acres of the ranch into the USDA Wetland Reserve Program under a perpetual resource conservation easement.

Channel work on McCoy Creek alone is expected to increase total channel length by over 4,500 linear feet over the existing channelized configuration. Additional fence work will be completed under phase II to protect the balance of the meadow complex. Fencing will be designed to generally coincide with the WRP program perpetual resource conservation easement. Riparian and floodplain shrub and sedge composition will increase, stream gradient will decrease, width to depth ratio will decrease, streambank stability will increase and erosion will decrease, groundwater elevations will gradually increase, and ultimately water quality will increase (decreased water temperatures). Overall habitat suitability for salmonid fish species will increase with a projected increase in juvenile rearing survival.

#### McIntyre Creek Road Relocation and Obliteration Project

This project involves relocation and obliteration of a road located along McIntyre Creek, a summer steelhead producing tributary of McCoy Creek immediately upstream from the McCoy Meadows Project. Construction work associated with relocating the McIntyre Creek Road was completed in 1998 by the USFS. Efforts in 1999-2000 involve obliterating and rehabilitating approximately 1.5 miles of drawbottom road on National Forest System lands. An additional 2.5 miles of drawbottom road located on private land could be rehabilitated under an agreement with the private landowner. Efforts are currently underway to develop restoration opportunities and agreements with the private landowner.

#### Upper Mainstem Grande Ronde Habitat Enhancement

Implemented in cooperation with the USFS and GRMWP in 1997, over 2 miles of mainstem habitat was enhanced through addition of large woody debris and limited large rocks (clusters). Whole trees with rootwads attached were floated in using a helicopter and placed with a tracked excavator. Approximately 75 pieces of large wood were placed in the channel and floodplain between Starkey, Oregon and Vey meadows to increase pool habitat quality and quantity and instream structural diversity. M&E is ongoing to quantify instream habitat and channel morphology benefits.

#### Mainstem Habitat Enhancement Project

This project involved the USFS, NRCS, ODFW, GRMWP, CTUIR and two large private landowners in the middle, Upper Grande Ronde subbasin. Major project construction was completed in 1998 and included repair, maintenance, and installation of large wood on six rock vortex weirs installed by the USFS in 1992 in the Bird Track Springs area, installation of approximately 60 whole trees, about 24 rootwad revetments, and rock vortex weirs, and rock veins. Approximately 1.5 miles of stream treated. Additional project efforts, including installation of riparian shrub and tree, riparian enclosure fencing, pasture fencing, and water development, are planned to be completed in 1999. Approximately 80 acres of riparian/floodplain habitat will be protected through a conservation easement between one of the two landowners and ODFW. Three pasture fences are planned for installation to improve livestock management in the Kuhna Meadows area. Water developments are planned in conjunction with pasture fences to replace water sites located on the Grande Ronde. Objectives of range developments include protection of revegetation efforts implemented in conjunction with instream and riparian enhancements and existing native shrub communities that are currently suppressed by livestock, and protection of streambanks to increase stability and reduce erosion.

#### **e. Proposal objectives**

1. Administer CTUIR Grande Ronde River Basin Watershed Restoration Program
  - a. Develop annual contract and scope of work with BPA COTR.

- b. Prepare annual/semi annual reports per contract agreement
  - c. Develop and administer equipment rental and service contracts and professional service agreements to accomplish project work. Perform as COTR on CTUIR contracts
  - d. Prepare documentation and checklists to cover project level NEPA requirements.
  - e. Prepare/coordinate development of Biological Assessments under ESA for T&E species. Consult with appropriate federal agency on individual projects.
2. Identify and prioritize habitat enhancement/restoration project areas
    - a. Review watershed assessments and habitat survey data, collaborate with other basin fish biologists to identify priority subbasins/stream reaches. Primary work conducted with ODFW, USFS, and NRCS.
    - b. Conduct on-site visits, evaluate site potential for restoration (access, landowner participation, likelihood of success, benefit to salmonid species).
  3. Develop anadromous fish habitat/water quality restoration project opportunities with other agencies and private landowners to address key habitat limiting factors in Grande Ronde River Basin.
    - a. Coordinate project development and partnerships with state, federal, and local agencies primarily through Grande Ronde Model Watershed Program. Develop/secure multiple funding sources to cost-share efforts.
    - b. Contact and coordinate with private landowners in key portions of basin to develop and implement habitat enhancement/restoration project opportunities.
    - c. Negotiate and develop conservation agreements with landowners to accomplish resource objectives.
  4. Enhance and Restore Instream Habitat Diversity and Suitability (improve hold and rearing habitat quality and quantity)
    - a. Design and implement appropriate strategies to enhance and restore availability of large pool habitat and instream structural diversity including installation of large woody debris/whole tree addition and limited rock structures.
    - b. Design and implement bioengineering/revegetation activities to enhance/restore streambank stability, stream shade, future recruitable large woody debris, and riparian/floodplain health.
    - c. Collect and propagate riparian tree, shrub, and grass/forb material for use in restoration/enhancement projects.
  5. Enhance and Restore Riparian and Floodplain Habitat Conditions to Enhance and Restore Watershed Health and Floodplain Function to Address Water Quality/Quantity and Erosion/Sediment
    - a. Design and implement installation of riparian/floodplain exclosures/pastures and develop range management/livestock management plans including development of pasture systems and off-channel range developments (spring developments, troughs).
    - b. Design and implement floodplain road/railroad rehabilitation/obliteration to recapture floodplain function and reduce sedimentation.
    - c. Conduct noxious weed control including prevention, manual treatments, and chemical treatments.
  6. Conduct Habitat Maintenance Activities
    - a. continue maintenance on McCoy Meadows Project (weed control, revegetation (interplanting/protection), minor structural repair
    - b. Maintain riparian exclosure/reveg plot protection devices
  7. Conduct Ongoing Monitoring and Evaluation
    - a. Continue M&E on McCoy Meadows Project
      - photo points
      - vegetative plots
      - revegetation plots
      - coordination with other agencies/organizations conducting M&E on project (groundwater, fish populations, cross-sections, total stations, ODEQ water quality program)
    - b. Develop and implement M&E on individual projects including:
      - photopoints
      - water quality (temperature)

-- revegetation sites (stocking/census/survival, density, stocking)

**f. Methods**

**1. Administer/Manage CTUIR Grande Ronde River Basin Watershed Restoration Program**

Program administration and management involves maintaining close coordination with BPA COTR on contracting, budgetary, scope or work, NEPA/ESA requirements, permitting, and semi-annual/annual reporting. Specific activities include conferencing with BPA representative(s), tracking budgets and expenditures, maintaining project staff tracking, etc. Administrative functions also involve soliciting bids, preparation, and administration of equipment rental and service contracts with vendors and contractors necessary to accomplish project construction/implementation, and procurement of materials and supplies. Outcomes include BPA-CTUIR habitat enhancement contract for program work and CTUIR-vendor contracts for site-specific project implementation activities.

Project development includes fulfillment of necessary federal requirements under the National Environmental Policy Act and Endangered Species Act. Following development of restoration/enhancement project designs, staff will prepare NEPA checklists per BPA direction and initiate appropriate review with federal agencies responsible for ESA oversight. Activities include preparation of biological assessments and coordination with NMFS personnel on restoration techniques and mitigation measures to avoid and/or minimize impacts to affected resources. In addition, project preparation also includes develop and submission for various permits such as Corps/DSL Section 404 permits and cultural resource investigations. Outcomes include completion of all necessary documentation/consultations with regulatory agencies and clearance for project implementation.

**2. Identify and Prioritize Habitat Enhancement and Restoration Project Areas**

Identification and prioritization of project areas is necessary to focus program efforts in portions of the basin that are likely to have meaningful benefits. Efforts under this objective include reviewing water assessments, existing literature, and habitat survey data to identify site-specific limiting factors and assess feasibility/need to for restoration and enhancement activities. Coordination and collaboration with ODFW and USFS staff on resource assessments and prioritization is normally undertaken to confirm priorities and to establish, if possible, potential project partnerships. NRCS staff are normally coordinated with when project reaches involve privately owned land.

**3. Develop anadromous fish habitat/water quality restoration project opportunities with other agencies and private landowners to address key habitat limiting factors in Grande Ronde River Basin.**

Project development and coordination involves working with, and development project partnerships with state, federal, and local agencies primarily through Grande Ronde Model Watershed Program. The CTUIR Grande Ronde Watershed Restoration Program has been successful in the past in regards to working with a wide variety of agency staff and private landowners on project development, implementation, and cost-sharing restoration funds to maximize benefit. FY2000 will include a similar effort with partnerships and cost-sharing continuing on regular basis. Activities include maintaining close contact with agency staff on project opportunities, prioritization of specific activities in specific portions of the basin and capitalizing on opportunities as they are developed, particularly with private landowners. Past, present, and future partners include the GRMWP, ODFW, NRCS, ODEQ, EPA, and various private landowners.

As part of project identification and development, staff will negotiate and develop agreements with landowners for habitat protection, enhancement, and maintenance. Easements and conservation agreements will be pursued when determined to be both cost effective and necessary to accomplish objectives. Types of agreements may include developing riparian exclosures to prevent livestock use for an established timeframe to protect project investments and allow recovery of resources; development of pasture management systems to improve, by example, riparian shrub/tree vigor and growth for shade and

streambank stability; and in cooperation with other agencies such as NRCS incorporate suitable property into the federal WRP to protect, in perpetuity, wetland/floodplain resources.

4. Enhance and Restore Instream Habitat Diversity and Suitability (improve instream salmonid holding and rearing habitat quality and quantity)

In certain portions of the Grande Ronde River basin, structural enhancements may be necessary and desirable to replace and/or facilitate recovery of components of the system destroyed or removed in the past century. By example, channelization, road/railroad construction, splash dam logging and associated cleaning/snatching all structure from river systems to improve log flume effect, have all contribute to a reduction of large woody debris and instream structural diversity, large pool habitat, and streambank stability. Habitat enhancement and restoration techniques to restore these elements may require physical placement of whole trees (rootwads attached), channel morphology alterations (excavation of meanders and point bars), installation of streambank stabilization structures (rootwad revetments, rock veins and weirs), and installation of bioengineering elements. In addition, where channel/environment restricts use of whole trees and/or log structures, utilization of instream rock vortex weirs could be employed to restore large pool habitats in conjunction with wood placement.

Activities include development of site-specific restoration designs. Design development may include field observation and mapping, cross sectional surveys/total station surveys, development of digital terrain models, conceptual design drawings, and on-the-ground layout (staking, flagging, etc. ) of project. In association with the conceptual and engineering designs, bioengineering and vegetative restoration elements will be developed and incorporated into overall project designs.

Collection and propagation of suitable vegetation for use in restoration efforts includes: identification of source materials (whips and seed); collection and preparation for propagation, livestock and fascine material, bareroot material, and tubed stock. The amount of vegetative stock will be determined as part of the project design process. Nursery vendors will be contacted for speculative propagation on an as needed basis to ensure sufficient stock is available for restoration efforts.

5. Protect and Enhance Riparian and Floodplain Habitat Conditions to Enhance and Restore Watershed Health and Floodplain Function to Address Water Quality/Quantity and Erosion/Sediment

Riparian and floodplain protection and enhancement includes development agreements with landowners described above, designing and installing riparian enclosure/pasture fencing, removing/obliterating roads and railroad grades to reconnect streamchannels to the floodplain, vegetative recovery, and weed management. Methods involve construction of smooth or barbed wire fence with appropriate gates/water gaps, heavy equipment (dozer/tracked excavator) to physically remove/cut/fill and contour road and railroad prisms, seeding and planting riparian/floodplain tree, shrub, and grass species to stabilize sites and regenerate native plant communities, and weed management strategies.

Manual labor needs to construct fences, seeding, and planting will be accomplished with CTUIR technical staff, Salmon Corps through contract arrangements, and field staff of over agency staff under partnership projects. Project efforts involving use of heavy equipment such as road and railroad obliteration will be accomplished through competitive contracting with local equipment operators.

6. Conduct Habitat Maintenance Activities

Habitat maintenance involves repairing structures installed during previous project efforts, including repositioning rock structures, replacing rip-rap and/or bioengineering mats, installing additional vegetation that may not have survived (interplanting), installing additional vegetative treatments (additional livestock, tubling stock, fascines, seeding) to facilitate vegetative recovery and streambank stabilization objectives, repairing/replacing fence segments and/or vegetation protection devices, and removing fallen trees etc on fences segments to maintain in functional repair (i.e., prohibiting livestock access to riparian areas).

Weed management may also be an ongoing habitat maintenance requirement on individual projects. Methods may include manual treatments (handpulling), burning, and application of herbicides.

## 7. Conduct Ongoing Monitoring and Evaluation

Monitoring and evaluation of individual projects is conducted either independently by the CTUIR or jointly with project partners depending on the projects. Monitoring and evaluation efforts include annual photopoints, video, installation of water quality monitoring devices, channel cross sections, population and habitat surveys, stocking/census surveys on revegetation efforts, and groundwater monitoring. Public tours, workshops, and presentations of individual projects will continue to be conducted. These activities provide for the discussion of various approaches, restoration techniques, successes, failures, and ultimately adaptive management.

Summer stream temperatures are monitored with thermographs manufactured by Onset Corporation. Thermographs collect maximum, minimum, and mean daily temperatures from May 1 through October. In some cases, winter temperatures are monitored also. Temperature data is useful in demonstrating changes within project areas as well as identifying habitat-limited areas. Photo-points are taken with a 35-mm camera and a standard 50-mm lens. Photo points are take annually. Project photo point albums are maintained at the CTUIR Fisheries and Wildlife Offices. Fish population assessments normally conducted in cooperation with ODFS and include use of a backpack electroshocker and or snorkeling. Methods are those adopted by ODFW. Percent shade measurements are taken once per year with a spherical densiometer. Measurements are taken mid-channel at 10-meter increments.

### g. Facilities and equipment

This project shares equipment purchased with BPA funds under other programs on an availability basis to minimize, where practicable, project costs. Following is a condensed list of equipment available to this project:

**Office supplies include:** two desks, two computer stands, two chairs, one file cabinet, one locking storage cabinet, and one Dell P133 computer.

**Vehicles include:** 4x4 pickups

**Field Equipment includes:** one 4x4, ATV/hauling trailer, one flat bed trailer, several Hilti Drills and bits, cable, fence posts, and fence wire and planting tools.

**Cameras and instruments include:** one 8mm video camera, one manual 35mm camera, Onset thermographs, and spherical densiometers, tape measures, and slide projector.

**Subcontractor equipment includes:** All subcontractors (heavy machinery work, planting, etc.) are expected to provide equipment capable of meeting requirements of task.

### h. Budget

CTUIR funding request for FY 2000 includes 2.375 FTE employees. Of this total, the project manager is funded for one month, the project leader/biologist for nine months, and two habitat technicians for a total of 16 months. Also funded under personnel is one month for hydrologist and 0.5 months for a GIS technician. Construction materials are used primarily for the purchase of native plants, grass seed, fencing materials, and log/rock material. Subcontract dollars are used for the hiring of outside personnel for planting,



operation/rental of heavy equipment, fence construction, and noxious weed control. Funding requested for FY 1999 is \$200,000. A total of \$250,000 is requested for FY 2000.

Out-year costs estimated in Section 5 are based on calculations that incorporate a maximum 5% merit increase for permanent personnel and a 3%, maximum annual cost of living increase associated with inflation. The inflation rate was applied to materials and supplies, travel, and contracting. Following is a summary of activities planned under each major budget line item.

**Personnel:**

Personnel funded under this project include:

Wildlife Program Manager-1month

Project Leader-9 months

Hydrologist – 1 month

Habitat Lead Technicians-16 months

Cultural Technician-1 month

**Materials and Supplies:**

Supplies, materials, non-expendable property funded under this project include:

Construction materials-trees, grass seed, fencing and rock

Field materials-tools, waders, field gear, sampling equipment, etc.

Repairs and maintenance-repair and maintenance of existing property

Communications-telephone services

Office Supplies-paper, pens, etc.

Duplication/printing-photo processing, photo copies, color copies, etc.

Non-capital equipment-thermographs, electrical tools, etc.

Subscriptions-professional journals, habitat restoration technique literature, etc.

**Travel:**

Vehicles-monthly lease of GSA vehicles

Mileage-fuel expenses

Vehicle Insurance

Per Diem-personnel travel reimbursement

Training-personnel participation at workshops, meetings, etc.

**Subcontract work:**

Operated heavy equipment rental-excavators, bulldozers, etc.

Fence construction-construction of riparian corridor fencing

Noxious weed control-chemical treatment of noxious weeds in enhancement areas

Tree planting-planting cuttings, bare-root trees and tublings in project areas

## **Section 9. Key personnel**

All CTUIR Department of Natural Resource staff funded under this project are professionally trained and meet standard job descriptions (professional and technical grade and series requirements) established under the CTUIR Personnel Policy and Procedures Manual (under current revision, 1998). Tribal staff involved in implementing the work identified under this proposal includes biological, technical, and administrative staff.

Name: Carl Scheeler

Title: Wildlife Program Manager

Months funded this project: 1

Education: BS Wildlife, 1985, Oregon State University

Experience: 15 years fisheries/wildlife experience; 12 years CTUIR Wildlife Program Manager; expertise in multi-project development, coordination, and oversight.

Name: Allen Childs

Title: Project Biologist

Months funded this project: 9

Education: BS Wildlife Management 1989 Eastern Oregon State University; A.S. Natural Resource Science/Fish and Wildlife Management 1985, College of Eastern Utah.

Experience: 13 years fisheries and wildlife biologist experience; 5 years fish and wildlife habitat enhancement/restoration program development/management.

Name: CTUIR Technician Staff

Title: Fisheries and Wildlife Technicians

Months funded this project: 16

Education: Min. High School Diploma

Experience: Habitat Enhancement/Restoration, habitat surveys

## **Section 10. Information/technology transfer**

Annual and quarterly reports of progress are produced by this project. Project personnel participate in field tours and interagency presentations to discuss past accomplishments, challenges, methodologies, strategies, and information exchange. Project personnel are also involved with local public forums (workshops, classrooms, clubs, etc.).

All entities involved in stream habitat alterations (proponents and permitting agencies) conduct pre and post implementation tours annually to discuss project needs/recommendations and project successes/failures.

## **Congratulations!**